

CAT MAGAZINE

**BENEATH THE SURFACE OF
THE BUCYRUS ACQUISITION**

**WHAT IT MEANS FOR CUSTOMERS, DEALERS
AND CATERPILLAR EMPLOYEES**

ZAHID RENTAL SERVICE GOES THE EXTRA MILE

GIVING CUSTOMERS A LOUDER VOICE



• DEALER LOCATIONS

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Dear reader,

The strength of any business depends on the growth of its offering and that of its customers, which is why Caterpillar continues to strategically invest in the most promising sectors. Our June 2011 acquisition of mining equipment manufacturer Bucyrus is a recent example. By investing \$8.8 billion, we greatly extended our product range and enabled customers to source all their equipment and services from a single provider. As well as giving them access to the Cat dealer network, this investment in our mining customers helps secure our presence in a steadily growing industry.



We have also made significant structural investment, by establishing Regional Product Distribution Centers in places such as Dubai, UAE and Zeebrugge, Belgium. These help streamline our distribution process, in order for our equipment to reach you faster, and hopefully surpass your expectations. Investments are also being made in the way we gain knowledge, increasing the volume and visibility of customer dialog to gain a clearer picture of future product needs. By listening closer and more carefully we can react better, and strive to foresee and surprise by continuous innovation going forward. I invite you to learn more through Frederic Istas, one of our new product managers, to find out about our focus on quality and how we bring our vision to life.

I am pleased to report that rental continues to grow as a highly desirable solution for more and more customers. Many of our dealers are adding locations and units to their rental fleets so they can provide you with the increased flexibility your business needs. We aim to live up to the motto: "Wherever your projects are, so are we."

In every story in this issue of Cat Magazine, I hope you will see how Caterpillar is focused on ways to help you grow: by expanding product lines, delivering quality equipment and helping you bring every project to a successful and profitable end, even in very challenging markets.

We thank you for your business in 2011, and wish you a productive and fruitful 2012. I hope to see many of you at the INTERMAT show in Paris this coming April.

Paolo Fellin,
Vice President Caterpillar



BUCYRUS ACQUISITION CHANGES THE FACE OF GLOBAL MINING



SAUDI ARABIAN SAND SWEEPED AWAY BY ZAHID RENTAL



FREDERIC ISTAS IMPROVES REGIONAL PRODUCT AVAILABILITY

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Above is just a taste of what's in this issue – you'll find plenty more news and views inside. If you have an idea for a story for a future issue, contact our publishers on CatMagazine@cat.com.

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BENEATH THE SURFACE OF THE BUCYRUS ACQUISITION

WHAT IT MEANS FOR CUSTOMERS, DEALERS AND CATERPILLAR EMPLOYEES

In November 2010, Caterpillar announced its intention to acquire Bucyrus International. In early July 2011, that acquisition was complete – giving the mining industry one source for the broadest line of surface and underground equipment in the world. At \$8.8 billion, the company's largest ever investment, the acquisition represents a confident step in Caterpillar's strategy for global growth, and means a wealth of opportunities for the company and the industry as a whole.





LISTENING TO CUSTOMERS

It was the voice of the customer that persuaded Caterpillar to expand its line by more than 100 products, says Chris Curfman, president of Caterpillar's Global Mining Sales & Support Division. "Our customers like doing business with us, and with our dealer network. They asked us to provide more products backed by that one-of-a-kind support network, with a single point of contact and access to our unmatched dealer service.

"Originally we played a relatively small part in the industry," he continues. "Less than 30 percent of the mobile equipment on a mining site could have been Cat branded. Now we can offer products to cover nearly 80 percent of their needs. Likewise, Bucyrus and Caterpillar served the same customer base for years, sharing the majority of our top 30 customers globally. Now we present one face to the industry – a unified offering of more products, and fewer systems and processes."

Mine sites also want to minimize the number of suppliers on site for safety reasons. "Now they will have only a Caterpillar presence on site – Cat dealer service trucks and personnel, with former Bucyrus field representatives and product experts, almost doubling our field presence. As well as a product line that supports both surface and underground mines, we also offer things like electrical power generation, locomotives and rail services – filling the full spectrum of requirements. When we say we've got the broadest product line, we really mean it."

BUILDING A STRONG ORGANIZATION

"The Caterpillar acquisition of Bucyrus was finalized on July 8. On July 11, the company celebrated an official Day One around the world – welcoming former Bucyrus employees to the team and sharing the excitement with current Caterpillar employees. But that was just the beginning of the team-building," says Tony Johnson, marketing manager in Caterpillar's Global Mining Sales & Support Division with responsibility for developed markets.

September brought unprecedented gatherings of Caterpillar Global Mining employees – sharing knowledge, learning more about the new organization and how to better serve the mining customer.

[More ▶](#)



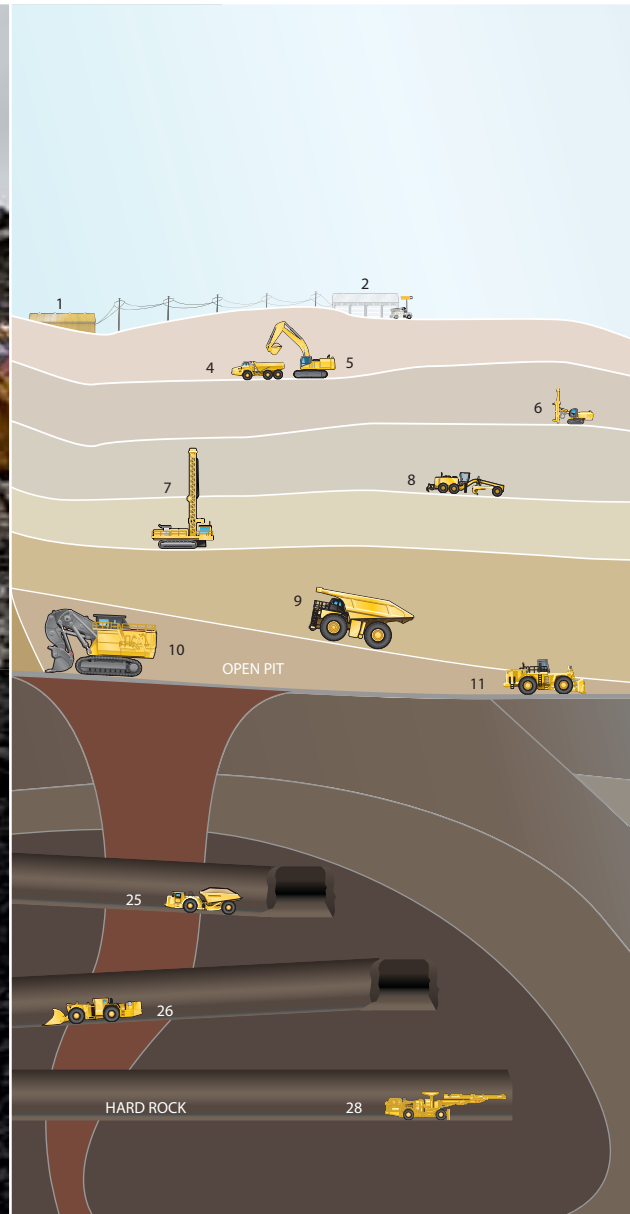
The Cat EL4000 shearer effortlessly cuts coal from an underground seam.



WORLD-CLASS SUPPORT

In this booming mining industry, reliable equipment is a must. "We're talking about customers that need more than 95 percent availability," says Dr. Gessner. "With the size of the fleets at many of these mine sites, that involves a lot of support from electricians, mechanics and product experts. All of these and more are available through the dealer network."

The dealer reputation for service and support has already brought new customer interest for former Bucyrus products, says Dr. Gessner. "E. Hartikainen Oy is a Finnish customer that had been using Cat equipment for 40 years. Bucyrus had tried unsuccessfully for many years to sell them a hydraulic shovel, but as soon as they learned they would have access to the Cat dealer network, they signed up. Six weeks after the acquisition, their new Cat-branded shovel started work at their mine in Finland."



An expanded field staff and 100 new products mean Caterpillar now has the broadest offer in the industry.



DR. DIETER GESSNER,
general manager Global Mining Sales and Support EAME, CIS and India.

"We had three major collaborations over the course of a few weeks," says Johnson. "First, 250 leaders gathered to discuss roles and common goals. Then we met with key suppliers, outlining the importance of the single brand and their role in our shared growth."

Then came a meeting of 600 sales and support representatives from around the world; the largest meeting that Global Mining had ever held. "We had a shared history of serving the same customers in different ways, but it was a first meeting for many of us," says Johnson. "We have learnt over the last few months that we're really more alike than we are different. We're both headquartered in the same region, the U.S. Midwest, with similar cultures and corporate philosophies. We share an acute customer focus and drive toward quality, reliability, safety and sustainability. Our corporate values are Integrity, Excellence, Teamwork and Commitment; these are the foundation of all our decisions and actions."

"This common background gives the new Global Mining Sales and Support Division a head-start as they absorb complementary skill sets into a single force," says Johnson. "Bucyrus employees are now learning how they fit into the Caterpillar framework while they're educating Caterpillar employees about the expanded product line. It's an equal exchange of knowledge."

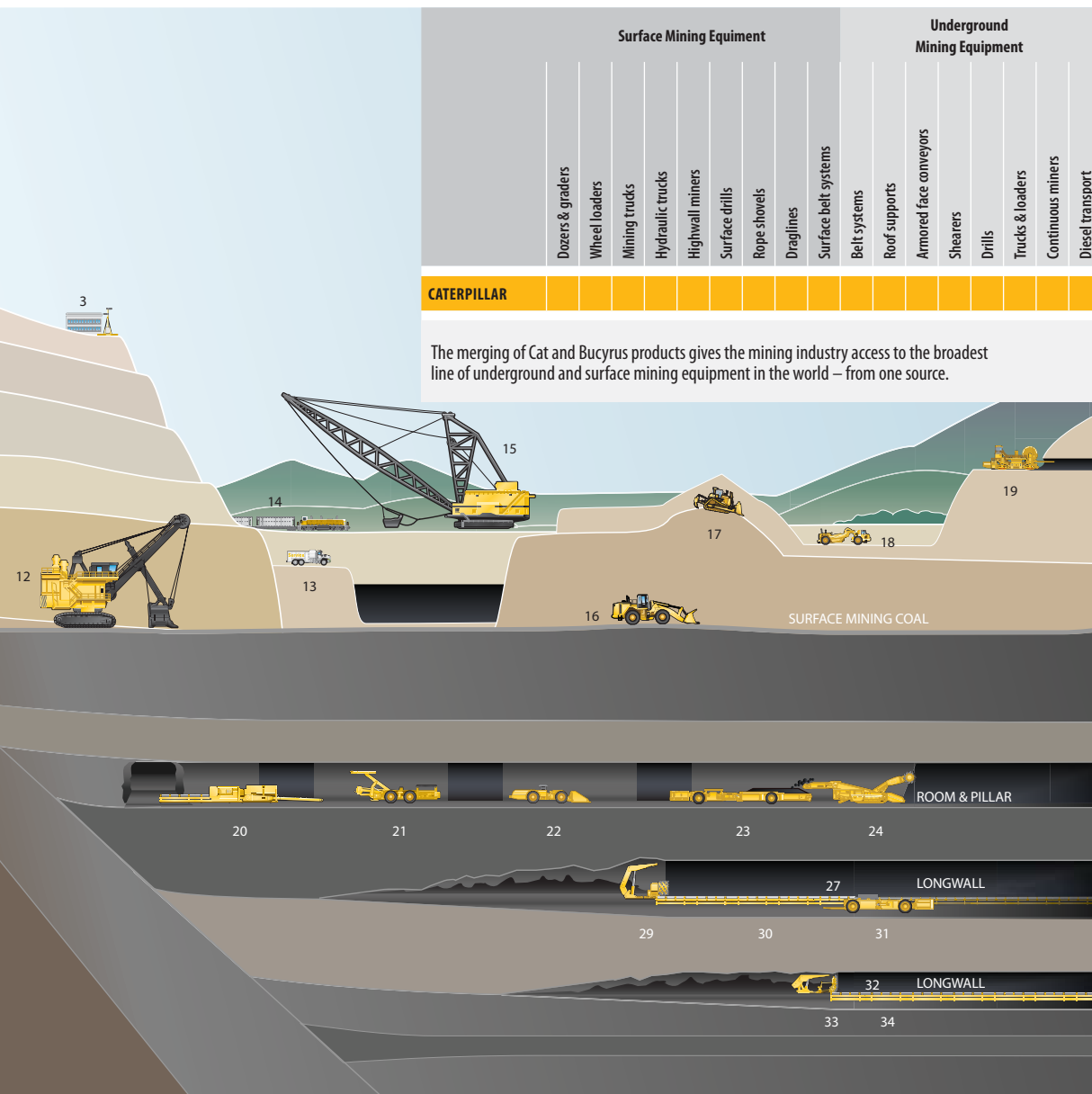
DEVELOPING DEALERS

It was clear from mining customers that they wanted the type of service network offered by Caterpillar, says Dr. Dieter Gessner, a former Bucyrus leader, now a general manager in the Global Mining Sales & Support Division with responsibility for Europe, Africa, Middle East (EAME), the Commonwealth of Independent States (CIS) and India. "Before the acquisition, if Bucyrus

Dealers will get strong application and technical sales and service support.

wanted to send a machine to a mine in Estonia, the customer would ask 'How are you going to support us with parts and service?' Now, we can answer with the Cat dealer network and Caterpillar presence."

While Cat dealers will eventually sell and support the complete new Cat product line, it will take several years to transfer all product responsibility to the dealer network. During this process, the main priority is making sure customers experience a seamless transition by providing the level of service and support they have come to expect from both organizations.



LEGEND

1. Electric power generation
2. Dealer support
3. Minestar system
4. Articulated truck
5. Hydraulic excavator
6. Track drill
7. Blasthole drill
8. Motor grader
9. Mining truck
10. Hydraulic shovel
11. Wheel dozer
12. Electric rope shovel
13. Utility truck
14. Locomotive & rail services
15. Dragline
16. Wheel loader
17. Track-type tractor
18. Scraper
19. Highwall miner
20. Feeder breaker
21. Roof bolter
22. Utility loader
23. Face haulage
24. Continuous miner
25. Underground truck
26. Underground loader
27. Shearer
28. Underground drill
29. Roof support AFC system
30. Belt system
31. Roof support carrier
32. Plow
33. Roof support
34. AFC system

BEING READY FOR GROWTH

"We have a defined transition plan in place, based on the mining business opportunity and the population base of current Bucyrus products," explains Dr. Gessner. "Dealers will be added in phases, and the integration team will take appropriate time to bring dealers on board, ensuring the foundation for success and growth is solid."

A large part of that transition will include dealer training.

"These products require a significant addition in terms of product knowledge to the range Cat dealers were accustomed to. So we will work closely with them to help bring this equipment to market, with strong application and technical sales and service support," he says.

Some former Bucyrus employees will move to the dealerships, working on-site and providing hands-on training. "This process of knowledge accession is just part of transitioning and expanding the business. Customers can rest assured that we will retain that knowledge in the new organization."

Dr. Gessner is confident that Caterpillar is well-positioned to help support the growing need for mined materials – a need that is expected to grow by 20 to 25 percent in the coming years. "The global population increase – for example in African countries like Mozambique,

Botswana, Ghana and Liberia – brings a great demand for energy and steel. India is expected to double its energy demands by 2016, which means more need for coal and iron ore. Mongolia is a start-up; China and Southeast Asia are still expanding. We're following these emerging markets and serving the growth markets with a strength that smaller companies cannot match." ■



Find out more about our mining offering on:
www.mining.cat.com



LOCATION:
RUB AL KHALI,
SAUDI ARABIA



DEEP IN SAUDI ARABIA'S EMPTY QUARTER

ZAHID RENTAL SERVICE GOES THE EX

Oliver Atsu slows his service truck to a stop at the top of the 200-meter dune and peers into the distance. He points out two tiny dots eight kilometers in the distance. "There they are," he says, "that's where we have to get to." They are two Cat D8R track-type tractors, and Oliver and his team are on the way to perform routine maintenance on them. Given the desert terrain in Saudi Arabia's Rub Al Khali – the renowned Empty Quarter – it will take another hour before he gets there.

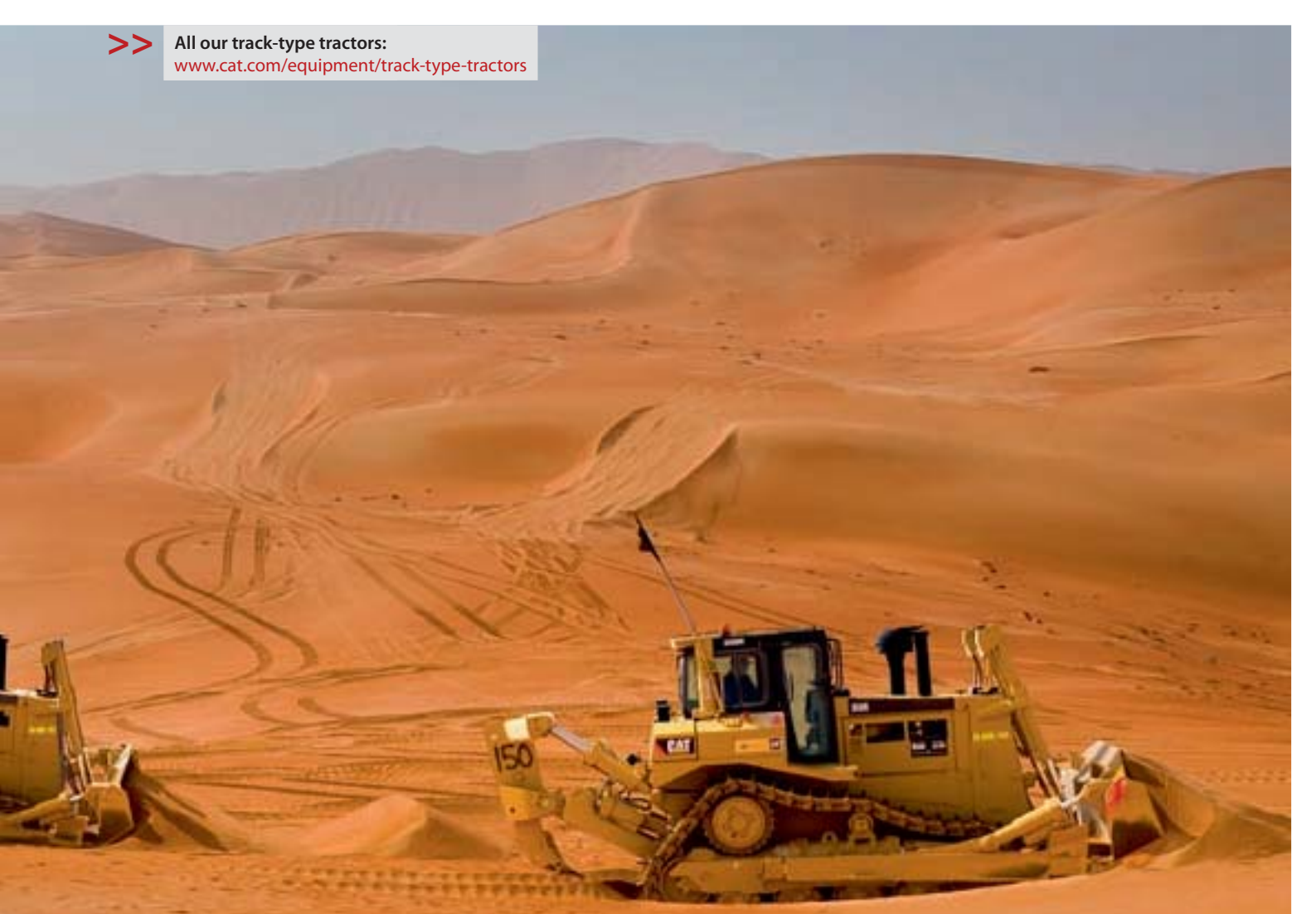
The D8Rs are part of a fleet of over 40 machines rented from local Cat dealer Zahid Tractor by Sinopec, a Chinese-owned survey company. Sinopec is in the Empty Quarter to pinpoint oil and gas deposits for oil company Saudi Aramco, in a sand desert almost as big as France, in temperatures in excess of 50° C.

Sinopec is no stranger to the rigors of operating in Saudi Arabia, having first started working there for Saudi Aramco in 2004. The current project, centered on the south-east of the country near its borders with Oman and the United Arab Emirates, began in 2009 and is likely to last until 2014.

MAKING PROGRESS POSSIBLE IN THE DESERT

The company's geological survey technique is made more difficult by the steep, shifting sand here. Its fleet of seismographic vehicles – Sercel Nomad 65 all-terrain vibrators powered by C13 Caterpillar engines – systematically covers the chosen survey area. Stopping every 20 meters or so, each vehicle lowers a hydrostatically-powered shaker plate. These emit vibrations that travel through the sand until they reach and reflect from the geological strata beneath. A network of sensor cables laid out on the sand picks up return signals, which are collected by the vehicles and transmitted to a remote location for analysis. The result is a picture of the underlying geology and potential areas to drill for oil.

So what role does the fleet of rented Cat D8R track-type tractors play in this process? Because the dunes are so massive and steep, the Nomad vehicles, despite their special 'sand tread' tyres, cannot always follow the required survey patterns. The GPS-equipped Cat track-type tractors overcome this problem by creating drivable tracks through the dunes exactly where required, so that the Nomad vehicles can follow later.



EXTRA MILE

With over 40 D8Rs rented from Zahid Tractor at work in such a remote and demanding environment, regular maintenance and servicing are critical for project progress. And that means long hours of unremitting hard work for Oliver Atsu and his resident team of four mechanics and a stores assistant. Oliver has been Zahid Tractor's on-site service manager since the very beginning of the project, performing routine maintenance and servicing of the D8Rs every 250 hours, wherever they happen to be at the time ("we go to them, they don't come to us," he says). Every three months he and his team conduct major inspections, and repair or replace parts where necessary. In order to pre-empt potential breakdown and facilitate predictive maintenance, oil samples are also collected from each machine after every 200 operating hours for analysis at Zahid Tractor's own laboratory at the dealer's Eastern Region facility in Dammam. "Of course, since we're over 800 kilometers from Dammam, we have to be largely self-sufficient here, so we keep stocks of spares and renewables on-site. That includes 1,000 liter oil cubes containing filtered oil delivered direct from Dammam, so we can be absolutely certain that what we use is contaminant-free." Freedom from contamination

is important in another aspect of Oliver's work, too. "Saudi Aramco has some very strict rules concerning pollution of the environment that we have to keep in mind when we work," he says. "For example, if we drop any oil at all onto the sand, we have to pick up the contaminated sand to a depth of one meter, bag it and transport it out of the area for cleaning or disposal. It's rules like that which make us very careful indeed – and rightly so – about how we carry out our work."

More 



MOHAMMED GABER,
Zahid Tractor special
project engineer.



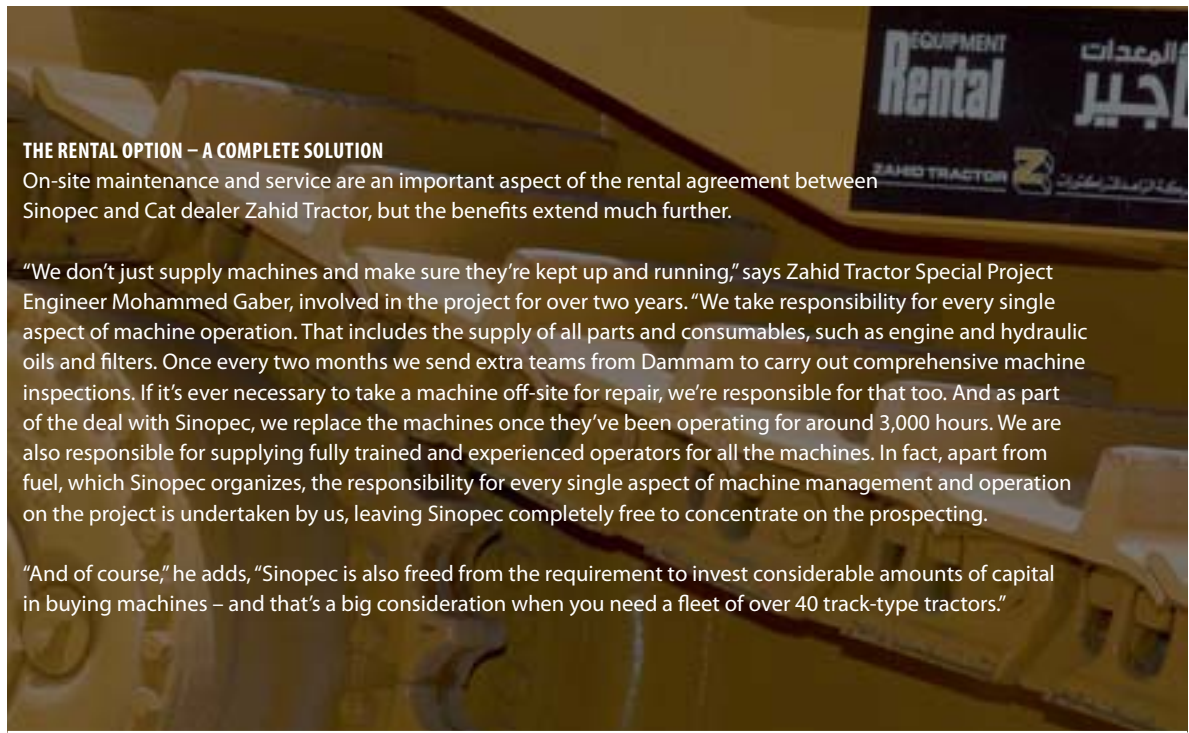
OLIVER ATSU,
on-site service manager.

Laboratory excellence: 5-star
contamination control
ensures maximized uptime.

Following a strong lead: after
the D8Rs clear the way,
Nomads can hunt for oil.



YAN SHIZHONG,
Sinopec's Geophysical
Department operation supervisor,
leads the search for oil.



THE RENTAL OPTION – A COMPLETE SOLUTION

On-site maintenance and service are an important aspect of the rental agreement between Sinopec and Cat dealer Zahid Tractor, but the benefits extend much further.

“We don’t just supply machines and make sure they’re kept up and running,” says Zahid Tractor Special Project Engineer Mohammed Gaber, involved in the project for over two years. “We take responsibility for every single aspect of machine operation. That includes the supply of all parts and consumables, such as engine and hydraulic oils and filters. Once every two months we send extra teams from Dammam to carry out comprehensive machine inspections. If it’s ever necessary to take a machine off-site for repair, we’re responsible for that too. And as part of the deal with Sinopec, we replace the machines once they’ve been operating for around 3,000 hours. We are also responsible for supplying fully trained and experienced operators for all the machines. In fact, apart from fuel, which Sinopec organizes, the responsibility for every single aspect of machine management and operation on the project is undertaken by us, leaving Sinopec completely free to concentrate on the prospecting.

“And of course,” he adds, “Sinopec is also freed from the requirement to invest considerable amounts of capital in buying machines – and that’s a big consideration when you need a fleet of over 40 track-type tractors.”



EQUIPPED FOR RESULTS

Sinopec’s Geophysical Department Operation Supervisor Yan Shizhong is in charge of the company’s prospecting activities in Saudi Arabia. “When we first started work in the country,” he says, “we had no intention of renting equipment, though we knew we wanted to work with Cat machines. We had done the research and everyone said Caterpillar was the brand to turn to, that they were best for desert conditions. We had tried a different brand of machine – a Chinese machine since we’re a Chinese company – but the weather proved to be too hot for it, and the terrain just too sandy. The Cat D8Rs supplied by Zahid, however, are specially equipped for desert operation. They are strong, powerful, and they come with good service back-up as part of the rental agreement.

developed a close relationship over the past two-and-a-half years. Above all, along with providing a good financial and operational solution to meet our needs, they respond quickly when there are problems – as there always will be in the kind of conditions we face. And we always get good service. I know them, they’ve become my friends, and I’m happy about that.” ■

“All in all, Zahid Rental has turned out to be the ideal solution for us. It means we can be flexible in the number of machines we want to use, and we avoid all the difficulties of finding enough good operators to man them – a problem we had when we first came here. Now it’s a Zahid Rental problem instead, which suits us very well! But seriously, we work well with them. We’ve

INDIAN MINE FINDS A SMOOTHER WAY

TO MOVE 4.5 MILLION TONS OF LIMESTONE

LOCATION:
CHANDRAPUR,
MAHARASTRA
INDIA



Naokiri Limestone Mines in Chandrapur, Maharashtra, India, is part of UltraTech Cement Limited. It produces the raw material for the cement ingredient clinker, in a country with a constant demand for building materials. After the major task of mining the limestone, comes the practical challenge of shifting it, on a haul road that is in constant use. For the dumpers that use the haul road, the biggest challenge comes from tire wear-and-tear, and the risk of puncture from the sharp stones blasted from the rock surface. But since the introduction of a Cat CS533E vibratory soil compactor in tandem with a Cat 120H motor grader for road maintenance, incidences of dumper damage at the mine have dropped by more than 60 percent.

"Haul roads are the cause of most dumper breakdowns," says Rajesh V. Sambrey, assistant vice president Mines in Ultratech Cement Limited. "If the road is not maintained properly, a lot of things can quickly go wrong. As well as immediate issues with the tires, the dumpers' suspension can suffer, the transmission can be affected and the chassis can be damaged. And when you have a dumper out of commission, you have a mine that is not operating at full capacity."

ELIMINATING BOTTLENECKS IN PRODUCTION

"The Cat motor grader and vibratory soil compactor are ideal for our needs," says Rajesh. "After the dozers clear the road, the 16-ton motor grader follows with its 3,685 mm blade preparing a wide path for the CS533E vibratory soil compactor." The 2,134 mm drum of the CS533E is powered by a four-cylinder Cat 3054C turbocharged diesel engine running at 2,200 rpm. Its unique dual pump arrangement provides separate, balanced hydraulic flow to the rear wheel axle and the drum drive motors. This ensures maximum torque and traction, with a machine gradability up to 80 percent and vibratory amplitude of .85 mm, compacting stones up to 200 mm in size.

Working together, the two machines produce a road surface that has helped maximize uptime at the mine. "The haul road of a mine is like an artery. If it is clogged, there can be dangerous bottlenecks," explains Rajesh. "Having the compactor on hand means we can constantly maintain the road surface, ensuring dumpers can come and go unimpeded. Since these machines started work, our dumper tire puncture rate has dropped by two thirds, and tire life has increased since there are a lot fewer cuts and tears. This has already led to a significant return on our investment. And we have the continued support of Cat dealer Gmmco India, who is on-site as and when we need service or maintenance." ■



RAJESH V. SAMBREY,
assistant vice president Mines
in Ultratech Cement Limited.





EFFORTLESS QUARRYING

NEW K-SERIES WHEEL LOADERS MAKE LIGHT WORK OF LIMESTONE

LOCATION:
FRANCHE COMTE
REGION OF EASTERN
FRANCE



ARNAUD CLIMENT
is delighted with the versatility
of his new 980K wheel loader.

For the past 10 years, Arnaud Climent and Sabine Nique have been general directors of the family company founded in 1934 by their grandfather, and whose president is Christophe Climent. Employing 260 people and handling projects including compaction, earthmoving, sewage and water, road reclamation work and paving, Climent divides its efforts across two distinct areas: road & infrastructure development, and quarrying. With a majority of the quarry work focused in five sites across the Franche Comte region of Eastern France, Climent Travaux Publics handles 1 million tons of limestone per year. Arnaud runs a fleet of 110 machines, of which 80 are Cat machines, with excavators ranging in weight from 4 to 80 tons. The fleet also includes tractors, compactors, articulated trucks, pavers and wheel loaders, all supplied by Cat dealer Bergerat Monnoyeur, and maintained by a team of technicians supervised by Michel Chognard. Climent Travaux Publics recently took delivery of a new 980K wheel loader to add to the 950, 966 and 980 machines already on site, as Arnaud explains here.

MORE PRODUCTIVE, LESS TIRING

Arnaud's operator is full of praise for the 980K. "He told me that once you work with this machine, you won't want to work with anything less, and found the 980K easier to operate than the 980H he previously worked with," explains Arnaud. Engineers have concentrated on improving aspects of the machine that affect productivity, ease of use and operator comfort. For the

966K, 972K and 980K, this involved a wide range of modifications, including the introduction of low-effort joystick control, which gives operators full control of the wheel loader, while resting both arms on wide, padded armrests. "It took around half a day for my operator to learn the new control system on the 980K," says Arnaud. "After that it became second nature to him, and he tells me how impressed he is with the strength of the machine, how easy it is to operate, and the fact that he is less tired at the end of a day's work."

LOWERING FUEL USE IN A NUMBER OF WAYS

In addition to enhanced operator comfort, the 980K increases productivity in other ways, with Performance Series Buckets as standard. Specifically developed for production loading, these buckets can be filled faster,

We have decided to replace the rest of our fleet with Cat equipment.

and retain material better. Which means cycle times are faster and this in turn can have a marked impact on fuel efficiency. And because all the new K-Series wheel loaders come with engines that meet Stage 3B emissions standards, fuel use is lowered still further. For the 980K, the addition of a new load-sensing hydraulic system is a third source of fuel saving. The automatic system monitors operating conditions, and directs the precise amount of flow to the implements as and

"Once you work with this machine, you won't want to work with anything less."

when required. And because the hydraulic pumps only produce the required flow, heat generation is reduced, which in turn decreases cooling needs and fan usage, resulting in additional fuel savings.

For customers like Climent, it is the sheer versatility of the K-Series that is making an impression. A comprehensive range of specially-designed work tools are now available, including pallet forks, specialty buckets, mill yard and logging forks, material handling arms, rakes and plows. "We put our wheel loaders to work in many ways for eight hours a day," explains Arnaud, "feeding the concrete crusher with limestone, carrying materials to the Cat 771 trucks that work on the site and loading on-highway trucks that transport produced material to working sites. And just like any high-production project, quarry workers like us depend on the machines' reliability to keep the quarry running smoothly. The 980K responds to our needs and working conditions just perfectly."

POWER, EFFICIENCY, PRODUCTIVITY

The new K-Series wheel loaders are powered by Cat C13 ACERT™ engines, with peak net power of 369 hp at 1,500 rpm. Compared with the 980H, the 980K delivers 25 percent more lift force, and 16 percent increase in tilt force. The optimized drive train delivers more efficient digging power, acceleration and performance, in addition to the marked reduction in fuel use. It can also be equipped with an optional lock-up clutch converter, which activates automatically in second, third and fourth gear. When locked, the converter operates like a direct-drive system, improving performance and reducing fuel use in applications with intensive load/carry and ramp-duty cycles.

"Our company bought its first new Cat machine back in 1966," says Arnaud, "a D4 track-type tractor that three generations have used, and which we still have in the yard. So there is a strong historic bond with the brand. But Caterpillar's reputation for reliability is well earned, and we have a good relationship with Bergerat

Monnoyeur France, our Cat dealer. There is always someone on hand to provide technical support, by phone or on-site, and when we need parts they arrive very quickly, which minimizes downtime. Although our fleet of machines is not exclusively from Caterpillar, the performance and reliability we have seen over the years has convinced us that now is the time to replace the other machines with Cat equipment."

The extension of the K-Series range is part of Caterpillar's accelerated introduction of new wheel loaders and other products to meet changing customer needs, with a large number of new product introductions planned throughout 2012. Look out for the next issue of Cat Magazine to learn more. ■

Reliable productivity in action.

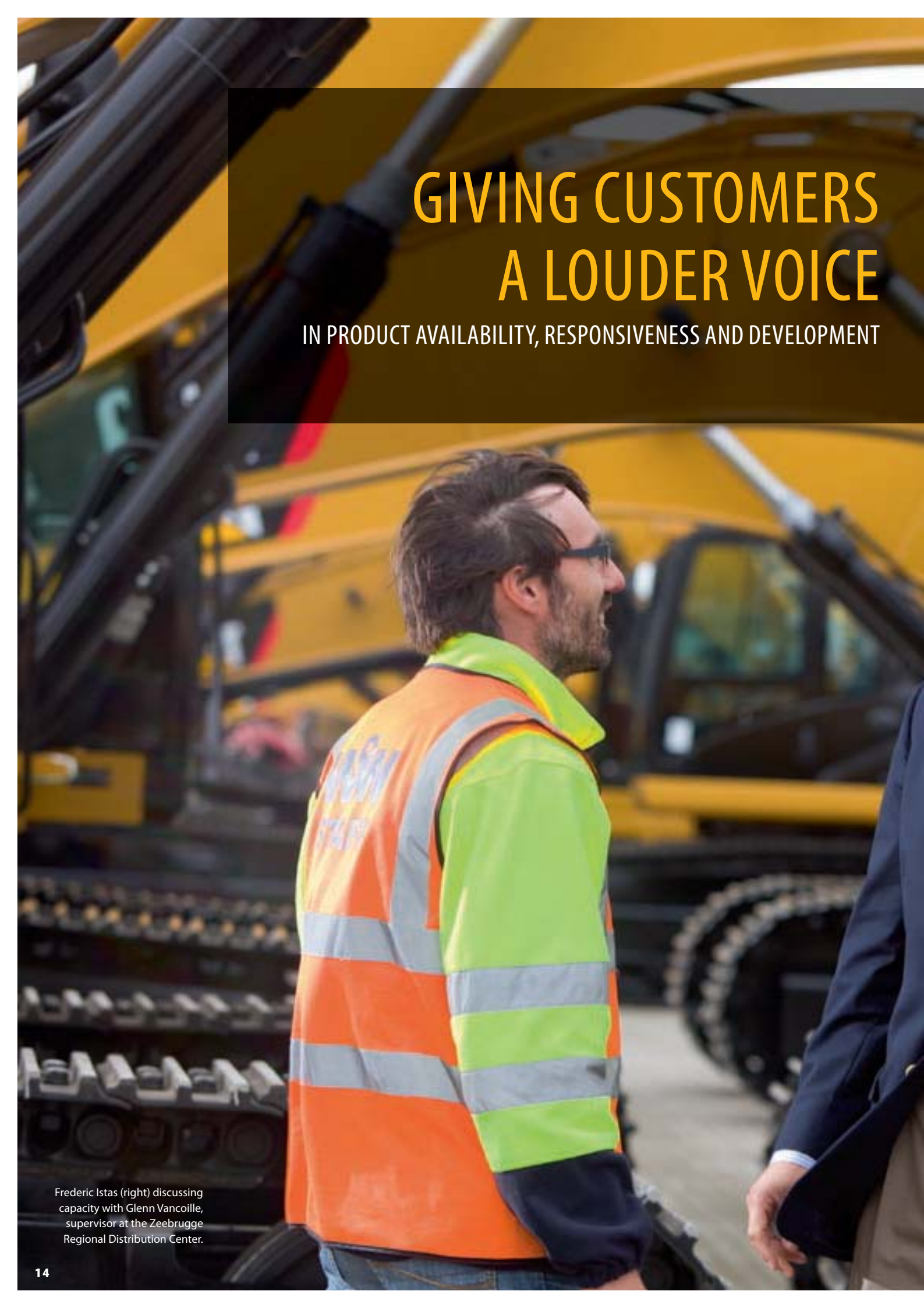


Arnaud's operator is impressed by the 980K's strength.



GIVING CUSTOMERS A LOUDER VOICE

IN PRODUCT AVAILABILITY, RESPONSIVENESS AND DEVELOPMENT

A man in a high-visibility orange and yellow safety vest with reflective stripes is shown in profile, facing right. He is wearing glasses and has a beard. He is standing in front of several large yellow tracked excavators. To his right, the arm and hand of another man in a dark suit jacket are visible, suggesting a conversation. The background is filled with the complex machinery of the excavators, including tracks and hydraulic arms.

Frederic Istas (right) discussing capacity with Glenn Vancoille, supervisor at the Zeebrugge Regional Distribution Center.

Frederic Istas is the new product manager for tracked hydraulic excavators in Europe, Africa, Middle East (EAME) and the Commonwealth of Independent States. Since his recent move from Caterpillar's Global Headquarters in Peoria in the U.S. to his new office in Geneva, Switzerland, he has brought a new focus to his role. Central to that is enhancing the way Caterpillar listens and responds to customers.

"The pace and magnitude of this job is massively different to my work with global revenue management. From a general overview of all product lines to a single focus on tracked hydraulic excavators – it is much deeper than just a global-to-regional shift. I am working with a much broader team here, across a much larger geographical spread," says Frederic. Tasked with improving the service and product offering for customers

in Europe, Africa, Middle East and the Commonwealth of Independent States (CIS), Frederic is responsible for a new dynamism in availability, responsiveness and product development. Part of this involves further increasing the role of the Regional Product Distribution Centers in Dubai and Zeebrugge, Belgium, to improve regional availability of the tracked hydraulic excavator range.

More ▶

LOCATION:
ZEEBRUGGE,
BELGIUM



"With this extensive input we develop a 'hi-res' picture of what customers really want."



LEVERAGING A GLOBAL FOOTPRINT

Caterpillar's Excavation Division has seen some worldwide availability constraints on certain models as a direct result of very fast growth in certain market economies. This has required the division to be even more dynamic in leveraging its global footprint.

"Meeting customers' expectations is critical. To improve product availability we constantly look at alternative options to source products from our factories around the world. The use of Regional Distribution Centers is an effective way of protecting customers as much as possible from longer transit times," explains Frederic. "But it is crucial for customers to know that, although the source might change, the quality, reliability and warranty are all the same, irrespective of product origin."

With the ever-changing competitive landscape, it continues to be imperative for Caterpillar and Cat dealers to remain the best. "Competition from China has been very visible in the Africa, Middle East and CIS regions for some time, but we now also see them starting to become active in Europe," says Frederic. "There are already a very large number of competitors in the European arena, and it is not a case of if, but when Chinese competition will also come to Europe. So it is up to us to continue delivering products and services to our customers with the lowest owning & operating cost in the industry."

Hydraulic excavators of every size:
www.cat.com/equipment/hydraulic-excavators



The 349E tracked hydraulic excavator, part of the focus of Frederic's drive for improved regional availability.

ENHANCING PRODUCT AVAILABILITY

"We are constantly optimizing our distribution channels to increase availability for customers, by extended use of Regional Distribution Centers like this one," he says. The Zeebrugge site, a bonded warehouse, stores hydraulic excavators from Belgium, Japan, Grenoble, Brazil and the U.S., before shipping them to the dealer network and ultimately to our customers. A number of standard configurations – 'Distribution Center Arrangements' – per product are always in stock. These are the most commonly requested configurations, and having them ready helps ensure the best possible availability.

Caterpillar keeps these standard configurations as close to customer requirements as possible, as Frederic explains: "Teams from the Global Construction and Infrastructure Division spend a great deal of time with customers, finding out exactly what they need, using a combination of customer surveys, interviews, panels as well as market research, fairs, sales team feedback and direct contact with dealers. Changing customer needs mean some of the configurations will likely need to be fine-tuned moving forward."

DIVERGING PRODUCT OFFERINGS, DISTINCT CUSTOMER NEEDS

"We have noted the need for diverging product offerings, as a result of regional differences in legislation, emissions regulations and a widening equipment-technology gap," explains Frederic. "The difference in the machines we offer in highly regulated areas like North America and Europe, and those in less regulated areas in Africa, the Middle East and CIS, will eventually make it impossible to offer a single product line that serves both markets."

For some, that could be seen as making a difficult job twice as hard. For Frederic, it is a bump in the road. "Legislation is something you can complain about or you can accept and look past," he says. "My role is to make sure that we give equal focus to the other critically important changes, i.e., those driven by changing customer requirements. The customer feedback and requirements we are gathering now will trigger the next development cycle, and that is when we will see the real results of our work."

UTILITY AND LIFE CYCLE SEGMENTS

One important result of being closer to the ground is a closer understanding of how customers use their

HOW THE ZEEBRUGGE DISTRIBUTION CENTER BENEFITS DEALERS AND CUSTOMERS

Marcel Stoelman, Caterpillar velocity/commercial manager, explains: "We started with Wallenius Wilhelmsen Logistics (WWL) in 2004, and the 47 hectare site here in Zeebrugge has capacity for 7,000 machines. We are now aggressively expanding our offer to 50 Distribution Center Arrangements (DCAs, or configurations), from the 311 excavator up to the 390. If a machine has been here for more than 45 days, it is 'exercised', to ensure it remains in prime working condition. Then, when the customer specification comes in, we finish the machine to order, fitting anything that isn't in the DCA, and ship it to the customer. With DCAs that accurately mirror customer needs, we keep lead time to a minimum, ensuring customers can get their projects up and running as fast as possible."



MARCEL STOELMAN,
Caterpillar velocity/
commercial manager.

"We are providing Cat and dealer sales teams with more tools and information to help customers lower owning and operating costs."

equipment. What they get from their Cat machine depends to a great extent on how they use it: in terms of hours, tasks, and how they use it as an investment. For customers who use their tracked hydraulic excavator constantly, optimizing uptime and productivity, their focus on total cost of ownership and the machine's residual value are some of the key buying criteria. "You can see this group as the 'life cycle' segment," explains Frederic. "Compare that to the customer who uses his machine for specific tasks, not necessarily operating the machine for as many hours per year. He still wants quality and reliability, but he also wants versatility. These customers would fall under the 'utility' segment. We pay the same attention to all customers, while noting that the split between the utility and life cycle segment

"The company has had to become significantly more dynamic."

varies by region, as well as by machine size-class. We are reviewing the differences very closely so we can tailor our offering to match their needs. Whether we talk about the utility or life cycle segment, we are constantly striving to find ways to lower owning and operating costs.

Monitoring the way our machines are used is also helping us to optimize the Distribution Center Arrangements, the configurations that we offer," says Frederic. For customers in highly regulated areas, this now includes the long-awaited Stage 3B engine. "Caterpillar has the broadest product line of tracked hydraulic excavators fitted with Stage 3B certified engines", explains Frederic. "The new E-Series is currently being introduced in Europe and customer feedback on safety, fuel efficiency and productivity has been extremely positive."

WHAT IS THE FUTURE FOR TRACKED HYDRAULIC EXCAVATORS?

"For the vast majority of our product line we will maintain two product versions," Frederic says. "One for highly regulated areas and one for less-regulated areas. This, as well as the possible differentiation in product

offering that might be required by customers operating in the utility and/or life cycle segments, will all need to be managed. In both cases, our relentless focus on quality will continue to bring increased customer satisfaction and ultimately higher sales volumes. We are also working very hard to ensure better and stable product availability, in line with customer expectations. Where justified, we are also going to see more and more integration of electronics, satellite guidance and AccuGrade - technological developments focused on increasing operator productivity and yield."

Frederic is looking forward to continued and increased customer contact: "I want to hear more from the people on the ground. I am essentially a conduit for channelling their needs into the organization, and importantly, for making sure we build and deliver the products our customers need to be successful." ■



The 47 hectare site in Zeebrugge, with space for 7,000 machines.



LOCATION:
TERENTO,
BOLZANO
ITALY



“WE COULDN'T HAVE DONE IT WITHOUT ACCUGRADE.”
SAYS CGT RENTAL CUSTOMER ALPENBAU



A D6K hard at work restoring a landfill site to its green origins.

Alpenbau is a major construction company from Terento, in Bolzano, the capital city of Italy's South Tyrol. A customer of Cat dealer CGT since 2002, Alpenbau recently completed two major projects with the AccuGrade system from CGT Rental. As well as using a Cat 323D hydraulic excavator to enlarge an artificial lake near Bressanone in Trento to collect water for apple cultivation, the company also employed the precision of AccuGrade for a far more challenging project. Georg Niederkofler, Alpenbau's managing director, explains.

“We had to redevelop a major landfill site in Firmiano in Bolzano. After moving 140,000 cubic meters of waste to model the banks, we had to precisely cover them with four layers totalling 90,000 square meters of different materials. That was only made possible with AccuGrade, installed on two Cat D6K track-type

tractors. First, 25 cm of recycled materials covered the banks, to convey the landfill gas evenly; then 25 cm of impermeable material combined with aggregates and clay; 30 cm of draining material to handle rainwater; and finally a 1.5 meter layer of topsoil.”

THE ACCUGRADE SYSTEM

AccuGrade-ready machines can be equipped with the system in about an hour. With the help of intuitive

“We finished the project 4 months early and saved €750,000.”

software, a 3D model is created of the intended slope, and the data fed to the system before work begins. The operator sees the model on a display in the operator

Georg Niederkofler,
managing director of
Alpenbau, at the company
headquarters in Terento.

machine. On-the-job training is provided, to make sure operators are fully comfortable with the system."

WELL AHEAD OF SCHEDULE

Alpenbau is one of those customers who benefited directly from CGT's help, as Georg Niederkofler explains. "We chose CGT as a supplier because they were able to provide a full range of services, equipment and work tools," he says. "Working with the dedicated CGT AccuGrade team, as well as the Sitech product support engineers, we completed the Firmiano project in 14 months – four months ahead of schedule. Our operators' feedback convinced us that AccuGrade will definitely be involved in future 'precision projects'. The job was easier, faster, more accurate and even safer: without needing a topographer and ground worker involved in the grading, our operators had no need to wait or worry about anyone walking around the machine. With less labor involved, and with less time required to finish the work, AccuGrade helped us to save around 15 percent of our €5 million budget. In today's economic climate, that's incredible."

Paolo Vivani says Alpenbau's experience of AccuGrade is shared with other customers. "We are getting great feedback from across Italy," he explains. "Many projects have a deadline bonus, and when you finish a job quicker you get paid quicker, which helps with cash flow and means you can pay your workers faster. In addition, finishing a project ahead of schedule means you can start another one sooner – a clear competitive advantage when running multiple projects. Today we recommend it to all our customers whose earthmoving projects require absolute precision. Anything that makes a job easier, faster and more accurate is a must-have." ■



Making the shores of an artificial lake: a 323D near Bressanone.



Working at the perfect angle: one of the 6DKs at the Firmiano landfill.

station, and follows the detailed angles, curves and trajectory of the model. Because of the precision involved, this can also help operators hone their skills, enabling them to get the job done on the first pass.

For CGT, a Cat dealer since 1934, and with 40 branches across Italy, the benefits of the system are clear: customers using AccuGrade through CGT Rental have saved time and money. "Many of our 1,200 rental machines are equipped with AccuGrade," says Paolo Vivani, CGT's earthmoving marketing manager. "Since 2009 we have been providing customers with a full turnkey service, starting from a close study of the application and advice about which machine fleet to use. From there we start digitizing the project, rendering the 3D model and installing it on the

GRADE"



Detailed information on AccuGrade:
www.uk.cat.com/accugrade



Making a world of difference, **Phil Ringenberger** has global responsibility for CCR.

OUT WITH THE OLD...
UK Cat dealer Finning transformed this Cat 775D off-highway truck.



A NEW WORKING LIFE WITH CAT CERTIFIED REBUILD



IN WITH THE NEW.
Rebuilt, repainted in Caterpillar yellow, the 775D returns to work with 25,000 hours on the clock, ready for action.



Miguel Ezquerro from Cat dealer Bergerat Monnoyeur has seen increased interest in Certified Power Train Plus.

Cat Certified Rebuild and Cat® Certified Power Train transform an old machine into one that performs and looks as good as the day it rolled off the production line. Launched in 1985, Cat Certified Rebuild (CCR) celebrated its 5,000th 'anniversary' in December 2010 with a 980G wheel loader rebuild. Here Phil Ringenberger, Caterpillar senior marketing consultant – with global responsibility for CCR – outlines the many benefits of what he calls “the ultimate repair option.”

“Every customer will inevitably reach the same point with their equipment,” says Phil, “the crossroads where they have to decide to rebuild, or resell and replace. Cat frames are produced to last at least twice, and more customers are now taking advantage of that, opting for a rebuild of their power train or the entire machine.”

“A BRAND NEW 20-YEAR-OLD MACHINE”

Returning the machine to its original levels of performance for a fraction of the cost of a new machine

means that customers enjoy lower owning and operating costs. As Phil explains, the advantages of CCR go even further than the financial benefits. "A lot of customers appreciate the fact that using a machine for two lives means they contribute directly to energy and material savings," he says. "And let's not forget that operators develop close working relationships with their machine, and that's not something many people want to say goodbye to after 10 or 20 years. With CCR we deliver a brand new 20-year-old machine."

WORLDWIDE QUALITY CONSISTENCY

Caterpillar is the only manufacturer with such a detailed remanufacture program, and the only one to guarantee like-new performance. When a Cat Certified Rebuild is done anywhere in the world by a Cat dealer, such as the Finning rebuild shown on these pages, there is a guarantee of consistency, and the assurance that every part of the machine meets Caterpillar's strict quality requirements. Central to this is the rebuild parts list, the 'data set' that dealers use as a reference guide. This can be up to 3,000 pages long, with up to 10,000 line items designated for repair, replacement or reconditioning. Most rebuilds will re-use up to 90 percent of the machine, remanufacturing it to like-new condition, with all critical parts replaced and engineering updates implemented.

Cat Certified Rebuild provides like-new performance for a fraction of the cost of a new machine.

Only Cat new or remanufactured parts are used in a Certified Rebuild, covering every detail: switches, gauges, wiring harnesses, hoses, Electronic Control Module (ECM), power train, hydraulics, the operator station and paintwork. Once completed, the machine is then given a 12-month warranty, with an option for extended warranty and financing. In some cases, Cat dealers will then offer a full service contract with terms the same as or very similar to that for a new machine.

For customers of Miguel Ezquerra, parts and service sales representative at Cat dealer Bergerat Monnoyeur, the choice of CCR is often just a question of maths. "Most new rebuild customers take the second-life option because it is so financially attractive," he says. "For a fraction of the cost of a new machine, they get as-new levels of performance, productivity, reliability and durability. Existing rebuild customers are also coming back with other machines in their fleet for rebuilds, or buying new Cat equipment because they know that CCR will be an option in the future."

Depending on customer requirements, a full rebuild is not always required, and a Certified Power Train (CPT) is recommended instead. This focuses on the engine, torque converter, transmission, differentials and final drives. "Everything that makes the machine go or stop is rebuilt or replaced," says Miguel. "The most popular option for my customers is Certified Power Train Plus, a rebuild of the power train plus any additional part of the

machine the customer wants to recondition: this option gives added flexibility to the Certified Rebuild offer. It also lowers the price of the rebuild by focusing on the specific needs of each customer," explains Miguel. "For example, in the waste industry, customers aren't generally concerned with the appearance of the machine's exterior. So the repainting and 'cosmetic' updates that come with a Certified Rebuild are not so important to them."

INCREASED CUSTOMER INTEREST

Phil Ringenberger puts the 40 percent year-on-year growth of CCR down to customers' common sense. "If you just keep fixing things when they break, you're looking at unpredictable downtime, a lot of uncertainty and worry. If you opt for Certified Rebuild, you take the machine out of operation at a planned time, on your own terms, in your own timeframe. It comes back in like-new condition 8 to 12 weeks later, which is in some cases even faster than getting a new machine. It is given a new serial number (CCR only) and a Certification Plate, which can be a powerful marketing tool for customers. Certified Rebuild represents a huge opportunity as a long-term strategy for customers to maximize their profits and productivity while reducing their owning and operating costs. The only surprise to me is that not every customer takes advantage of Certified Rebuild." ■

CCR AT A GLANCE

1. Pre-rebuild inspection
2. Disassembly
3. Reconditioning
4. Critical engineering updates
5. Power Train tests
6. Reassembly
7. Performance testing
8. Repainting
9. New serial number
10. Customer evaluation

Ready for thorough cleaning, the 775D is dismantled at Finning's Chesterfield site.



A new life awaits: Finning expects the rebuilt machine to deliver another 15,000 hours productive life to customer Lafarge Aggregates.



The latest updates on Certified Rebuild:
www.uk.cat.com/ccr



The most compact Cat machine: 1,507 mm high and 730 mm wide.



DECEPTIVELY SMALL,
**CONVINCINGLY CAPABLE: THE NEW 300.9
 MINI HYDRAULIC EXCAVATOR**

If you caught this year's European roadshow, you may have spotted a new champion in the field. The 300.9, the latest compact powerhouse to join the Building Construction line-up, was one of the stars of the 'Cat Compacts On Tour'. We talked to Harry Murphy, Caterpillar sales representative, about the growing appeal of this smallest addition to the Cat range.



Nowhere too narrow: the 300.9 fits easily through a standard doorway.

"It's powerful, productive and portable, for a start. Weighing in at only 935 kg, the 300.9 is built around an 854 cc diesel engine, making it the most powerful excavator of its size in the world. It has a surprisingly good dozing capability for such a small machine and can dig down more than 1.7 meters. Basically it's everything you'd expect from a Cat machine, on a smaller scale."

The 300.9 is being put to use across Europe in a range of areas, from landscapers, groundworking and tooling companies to the private and rental sectors. "It was designed to be intuitive," says Harry, "so it can be put to work straight away." With steady interest from the rental market, the 300.9 can also be paired up with the H25

the sale to Mr. Mellish, says "Darran saw the 300.9 and appreciated the speed and power of the machine. As well as its compact good looks and high build quality, the 18.6 hp engine was a key factor in his decision."

"We introduced the 300.9 because the mini excavator market needed a powerful performer," concludes Harry. "Customer response confirms this, with a steady stream of orders from dealers throughout the network, with exports about to start to the U.S., Canada and Australia. Hopefully the response there will be as positive as we've seen with customers here – a huge appreciation for our smallest excavator." ■

"Everything you expect from a Cat machine, but on a smaller scale."

hydraulic hammer, making it a useful 'demolition dynamo' too. "The obvious benefit of something this size is that it fits practically anywhere: moved around on a standard trailer with a standard license, or even in the back of a van with the frame folded down. Because of its narrow body, the 300.9 can fit through a 760 mm doorway or travel in a service elevator on a demolition site, something customers are already making great use of."

For customer Darran Mellish, the 300.9 is proving a most useful addition to his West Coast Tool and Plant Hire business in Scotland. Finning's David Moir, who made

SPECIFICATIONS:

- 935 kg, 854 cc diesel engine:
- 3-cylinder, 13.8 kW
- 8/9 kN breakout force
- 1,731 mm dig depth
- 730 mm wide.



More mini hydraulic excavators news:

www.uk.cat.com/equipment/hydraulic-excavators/mini-hydraulic-excavators



AT THE HEART OF EVERYTHING THAT MOVES: THE CAT ENGINE

It's the hidden center of every Cat machine, with parts that move up to 2,100 times per minute and that produce mechanical energy at temperatures above 2,000° C. Making sure it is kept in peak condition is perhaps the most important part of the machine maintenance cycle.

Different parts in an engine wear down at uneven rates, depending on their role and position. Smaller engine components, level one parts like piston rings, valve guides and main bearings are of course built from highly durable and resilient materials. But given the stresses and temperatures they experience during the highly transient load cycle of construction machines, their life cycle is relatively short. These parts are connected to higher value elements in the engine, level two parts such as pistons, cylinder liners and valves. They in turn are connected to level three 'lifetime' parts, such as the cylinder blocks and connecting rods. In order to ensure optimal engine efficiency, every level has to be kept in peak running order.

WHY REPAIR SOMETHING THAT STILL WORKS?

A failure at the lowest level can quickly have a destructive impact on the higher level parts of the engine or on other major components of the machine's power train. This is why Thomas Enssle, Caterpillar marketing consultant, recommends the 'Repair Before Failure' (RBF) engine overhaul philosophy. "Why wait until something

"Why wait until something breaks?"

breaks? Unscheduled downtime can mean missed revenue opportunities and costly repairs, a situation that can be easily avoided with proper Condition Monitoring," says Thomas. An RBF overhaul allows the customer to access the engine's inbuilt second life, or have it brought back to as-new condition. Level one parts are replaced, and level two parts re-used, reconditioned or remanufactured. This ensures that level three parts are protected from unnecessary strain.

PREVENTING SMALL PROBLEMS FROM BECOMING CATASTROPHES

Cat dealers use a range of Condition Monitoring (CM) tools to help customers assess the engine's health, and to identify 'repair indicators'. S-O-SSM Services offers one of the most important and powerful CM tools, with detailed analysis of fluid samples from customer machines.

"Every 250 or 500 hours an oil sample is taken then sent to the lab for investigation. Fluid analysis checks for any microscopic particles of copper, iron, chrome, aluminum or silicon that have entered the engine oil over time through component wear. Increased levels of wear particles in the engine oil are a key indicator of potential engine problems," explains Thomas. Expert S-O-S interpreters will evaluate the results of the analysis, recommend actions if an area of concern is discovered, or alert the customer should the results indicate that a component failure could occur soon.

CONTROLLING COSTS, PROTECTING PRODUCTIVITY

The single most important benefit of the RBF approach is also the most obvious: no engine failure. With scheduled maintenance, customers also have the benefit of foresight – overhauls can be planned in when convenient, maintenance costs and downtime kept lower and predictable. Thomas has this word of caution for customers: "If you wait until your engine fails, you will pay significantly more later on." ■



Perfect performance requires regular checks.





**ANYTHING.
ANYTIME.
ANYWHERE.**

Whether you build a house in the nearby city, drill a tunnel under a remote mountain, build a highway in the desert or pull stones from a steep quarry, you can count on The Cat Rental Store® for your equipment requirements. With over 1500 locations in 88 countries we provide you with expert advice and access to a complete range of solutions for your challenging situations.

The Cat Rental Store, you've got it.



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